U-View Limited

Matrix

Item	See Model	Book
Safety Notes	P934 I	6
Service Cables	P934 I	6
Mechanism Disassembly	P934 I	6
Mechanism Adjustments	P934 I	6
Mechanism Troubleshooting Guides	P934 I	6
Deck Exploded Parts View	P934 I	6

Electrical Adjustments

Electronic Test Equipment

Oscilloscope
Video Signal Generator
Level Meter
+ Driver
Test Tape (SP)
Recording Tape
Digital Multimeter
Monitor Scope
Power Supply

ABBREVIATIONS
SPEC: Specification
M.P: Measurement Point
A.P: Adjustment Point

1. Servo Circuit

1) PG Adjustment

Purpose:
For the phase dividing of the Video A,B heads with 180 and the exact tracing of each track to meet head switching point with VHS Spec.

Composite Video Signal

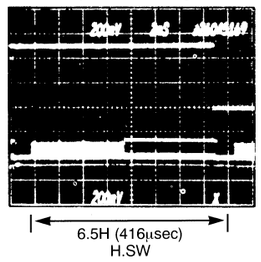


Fig. 3-1

1-1) Record PG Adjustment

MODE: Record
SPEC: 416±50usec
M.P: TP302 (H.SW) JK701 Pin(1) (Video Out)
A.P: VR502

1-2) Playback PG Adjustment

MODE: Playback
SPEC: 6.5H±0.5H (41 6usec, 1 H=64usec)
M.P: TP302 (H.SW) JK701 pin (Video Out)
A.P: VR501

1-1) Record PG Adjustment

Procedure:
a. Set the VCR to AN mode.
b. Connect CH-1 terminal of oscilloscope to TP302 (H.SW) and CH-2 terminal to video out terminal (JK701 pin(1) of VCR.
c. Input the Video signal to Video Input Jack.
d. Record in PAL SP mode.
e. Trigger the complex Video signal of CH2 to CH-1 (H.SW), and adjust VR502 so that the distance from A(B) head selection point of H.SW signal to the starting point of Vertical synchronized signal is 416±50usec.

Reference:
1. Record PG Adjustment is proceed in the Record mode and must be input video signal.
2. The deviation between A/B Head Adjustment location should be within i-0.5H (32usec).
3. The deviation between the specification of adjustment and the practical measurement value should be within t-S0usec.
4. Oscilloscope and VCR set should be connected with GND.
5. When the Power Assy of set is changed, you should be readjust Record PG.

1-2) Playback PG Adjustment

Procedure
a. Playback a PAL SP test tape.
b. At this time, the ATR' is lighting, after pressing the A.TR (+) or A.TR(-) and adjust the X-Value.
c. Connect CH-1 terminal of oscilloscope to TP302(H.SW) and CH-2 terminal to Video Out terminal (JK701 pin(1) of VCR.
d. Trigger the complex Video signal of CH2 to CH-1 (H.SW), and adjust VR501 so that the distance from A(B) head selection point of H.SW signal to the starting point of Vertical synchronized signal is 6.5H (416usec, 1H= 64usec).
e. The conversion of A/B Head SW signal uses the Polarity Invert Knob of oscilloscope.

Reference:
1. ±PG adjustment is proceed in the state of maximum RF level and locked servo system (MTR Mode).
2. The deviation between A/B Head Adjustment location should be within ±0.5H (32usec).
3. The deviation between the specification of adjustment and the practical measurement value should be within ±0.5H (32usec).
4. Oscilloscope and VCR set should be connected with GND.

2. Audio Circuit

1) Record Bias Adjustment

MODE: Record
SPEC: 3.0mW±0.2mV RMS
M.P: W105(+) W106 (-)
A.P: VR401

Purpose:
This is adjusting the bias current to specification in recording.

Procedure:
a. Connect (+) terminal of the Level Meter to W105 (+).
b. Connect (-) terminal of the Level Meter to W106 (-).
c. Confirm that the Oscillation Voltage is 3.0mV±0.2mV RMS.
d. At this time, adjust VR401 and make the oscillation voltage fit to specification.

3.Tuner/IF Circuit

1) VCO (Voltage Controlled Oscillation) Adjustment

MODE: PAL I (38.9MHz)
SPEC: DC 2.5±0.1V
M.P: P7M02 pin(5)(AFC CTL)
A.P: T750AFC
(Automatic Frequency Control) (VCO COIL)

Procedure:
a. Connect as shown in Fig. 3-2.

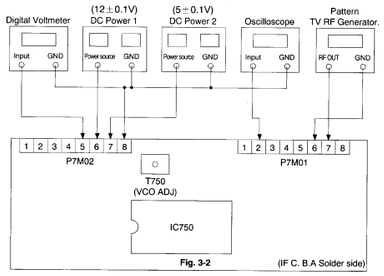


Fig. 3-2.

b. Input the PAL I 38.9MHz (Strength of input electric field: 75±5dBu) signal Out Terminal of TV RF Pattern GEN instrument.
c. Confirm that the video signal is Output by connect oscilloscope to P7M01(2)PIN.
d. Adjust VCO coil T750 so that the voltage of P7M02 pin (5) became DC 2.5 ±0.1V.

2) RF AGC (Automatic Gain Control) Adjustment

MODE: PAL B/G (E11CH)
SPEC: 5.5±0.1V p-p
M.P: W393
A.P: VR701

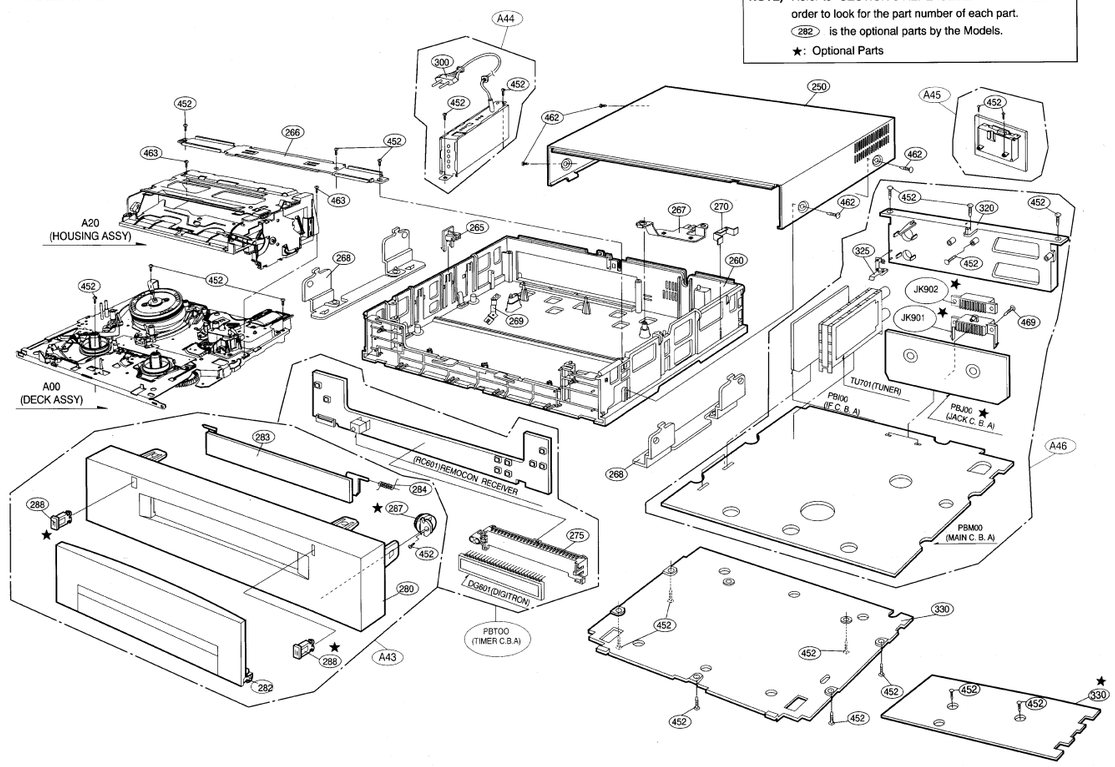
Procedure:
a. Be tuning PAL B/G E11CH (216.25MHZ) (strength of input electric field: 70±1dBu).
b. Connect the Digital Voltmeter to Tuner AGC PIN.
c. Adjust VR701 so that the digital voltmeter is 5.5 ±0.1Vp-p.

Reference:
Maintain the input gain in adjusting AGC faithfully.

Cabinet Exploded View

1. Cabinet & Mainframe Section

NOTE) Refer to "SECTION 5 REPLACEMENT PARTS LIST" in order to look for the part number of each part.
(282) is the optional parts by the Models.
★: Optional Parts



Cabinet Parts List

Location	Part No.	Description	Specification
A43	3721R-F004V	PANEL ASSY	FRONT
A44	3501R-0278C	BOARD ASSY	SMPS
A45	3501R-0690A	BOARD ASSY	PRE-AMP
OR			
A45	501-520B	MODULE	PRE-AMP(P401P)
A46	3501R-0263E	BOARD ASSY	MAIN I
250	217-570B	CASE	TOP
260	315-347B	FRAME	MAIN(60HR)
266	321-738A	BRACKET	ASSY HOUSING
267	255-429A	PLATE	GND(M/F)
268	255-359A	PLATE	SIDE GND
269	255-362A	PLATE	PREAMP GND
270	321-743A	BRACKET	PROTECT
275	340-086A	HOLDER	DIGITRON
280	3720R-F009K	PANEL	FRONT
283	3580R-0003E	DOOR	CST
284	442-681A	SPRING	DOOR
300	681-142E	CORD	H03WH2-F 2-0.75MM(2X0.5MH)
320	258-728C	PANEL	ASSY DISTRIBUTOR
330	220-050A	COVER	BOTTOM
452	353-051 A	SCREW	SPECIAL(3X10 FZMY)
459	353-046A	SCREW	SPECIAL (3X6 FZMY)
462	353-136A	SCREW	SPECIAL(4.6X12.5 FBK)

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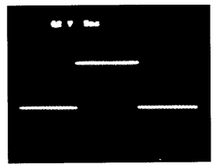
Mechanical Parts List

Location	Part No.	Description	Specification
A00	412-187A	DECK	ASSY D-27 P (4HD MONO VCR)
OR			
A00	412N187A	DECK	V(D D-27 P (4HD MONO VCR)
A01	413-374A	DRUM	ASSY (D-27 P4)
OR			
A01	413B374A	DRUM	ASSY (D-27 P4) BOKWANG
OR			
A01	413C374A	DRUM	ASSY (D-27 P4) SAMJUNG
A02	225-361A	BASE	ASSY P2
A03	225-364A	BASE	ASSY P3
A04	386-394A	ARM	ASSY CLEANER
A05	386-405A	ARM	ASSY T/UP
A06	321-668A	BRACKET	ASSY L/D MOTOR
A07	340-070A	HOLDER	ASSY PINCH
A08	333-331A	LEVER	ASSY F/R
A09	435-435A	GEAR	ASSY P2
A10	435-437A	GEAR	ASSY P3
A12	333-329A	LEVER	ASSY TENSION
A13	328-075A	BAND	ASSY TENSION
A20	219-023A	HOUSING	ASSY D-27
A21	340-010A	HOLDER	ASSY CST
A22	321-672A	BRACKET	ASSY SIDE (R)
001	413-317B	DRUM	SUB ASSY (PAL)
002	414-209A	MOTOR	ASSY DRUM GVD-027A ALPS
002	414-217A	MOTOR	ASSY DRUM E20XL14 D27 SANKYO
003	311-011A	CHASSIS ASSY'	D27
004	225-362A	BASE	SUB ASSY P2
006	225-368A	BASE	DRUM
007	225-371A	BASE	ASSY A/C
008	523-833A	HEAD	FE HVFHU0010AK ALPS
010	225-365A	BASE	SUB ASSY P3
012	225-399A	BASE	ASSY BRUSH
013	386-395A	ARM	CLEANER
014	324-835B	HOLDER	ASSY CLEANER
015	386-392A	ARM	ASSY TENSION
020	442-640A	SPRING	TENSION
021	456-070A	REEL	S27
022	456-071A	REEL	T27
025	340-008A	HOLDER	BAND(C)
026	333-330A	LEVER	TENSION
030	338-112A	BRAKE	ASSY SM
031	338-114A	BRAKE	ASSY TM
032	442-655A	SPRING	MB
033	338-116A	BRAKE	ASSY TS
034	442-654A	SPRING	TSB
035	316-019A	BODY	PRISM LED
036	257-011A	PLATE	UP
040	435-44A	GEAR	PINCH CAM
041	435-440A	GEAR	PINCH
042	435-439A	GEAR	CNT
043	386-404A	ARM	SUB ASSY T/UP
044	442-650A	SPRING	T/UP
045	321-669A	BRACKET	L/D MOTOR
046	414-199A	MOTOR	ASSY L/D
047	437-019A	WORM	L/D MOTOR
048	437-020A	WORM	WHEEL
050	386-401A	ARM	ASSY PINCH
051	340-073A	HOLDER	SUB ASSY PINCH
052	225-374A	BASE	TENSION
053	333-332A	LEVER	F/R
054	442-645A	SPRING	F/R
055	442-649A	SPRING	PINCH
056	333-334A	LEVER	ASSY P2
057	386-398A	ARM	F/R
060	435-436A	GEAR	P2
061	442-647A	SPRING	P2
062	333-336A	LEVER	ASSY P3
063	435-438A	GEAR	P3
064	442-648A	SPRING	P3
065	435-442A	GEAR	P/S
066	257-070A	PLATE	SLIDER
070	337-0076	CLUTCH	ASSY S27
071	337-008A	CLUTCH	ASSY T27
072	386-396A	ARM	ASSY IDLER
013	442-644A	SPRING	UP/D
074	434-173A	ROLLER	ASSY GUIDE
074	434-173C	ROLLER	ASSY GUIDE
074	434-173D	ROLLER	ASSY GUIDE(DAI YANG)
075	435-433A	GEAR	CAM L/D
076	556-252B	SWITCH	MODE S(W(D-27),HMW0840-01 HOSI
077	435-432A	GEAR	PULLEY
080	442-656A	SPRING	H1
081	435-443A	GEAR	H1
082	333-339A	LEVER	H1
083	435-444A	GEAR	H-2
084	414-201A	MOTOR	GVC-027A CAPSTAN D-27 ALPS
085	321-696A	BRACKET	CAPSATN,D27
086	452-062A	BELT	CAPSTAN
090	321-670A	BRACKET	CAM
091	333-333A	LEVER	JOG
092	435-434A	GEAR	JOG
093	442-646A	SPRING	JOG
094	338-110A	BRAKE	ASSY CAP
095	333-338A	LEVER	TAB
096	442-652A	SPRING	TAB
100	257-072A	PLATE	TOP
101	386-407A	ARM	ASSY F/L
102	340-011A	HOLDER	SUB ASSY CST
103	321-671A	BRACKET	HOLDER(R)
104	333-341A	LEVER	STOPPER(R)
105	465-039A	OPENER	LID
106	386-410A	ARM	RELEASE
110	442-660A	SPRING	RELEASE
111	442-659A	SPRING	STOPPER
112	477-058A	RUBBER	GRIP
113	321-673A	BRACKET	SUB ASSY (R)
114	435-445A	GEAR	CAM F/L
115	435-446A	GEAR	CONNECT
116	435-447A	GEAR	WORM
120	333-342A	LEVER	SWITCH
121	442-661A	SPRING	SWITCH
122	257-074A	PLATE	COVER
OR			
123	384-143A	GUIDE	CST
123	384-151A	GUIDE	CST27
126	465-040A	OPENER	DOOR
130	257-075A	PLATE	GROUND
131	340-062A	HOLDER	ASSY PRISM
401	1MPK0261418	PAN HEAD MACHINE SCREW +,-	D2.6 L4.0 MSWR3/FZY
405	1MDC0262818	PAN HEAD MACHINE SCREW P/WASH+	D2.6 L12 MSWR3/FZY
406	1MEC0302018	PAN HEAD MACHINE SCREW S/W+	D3.0 L6.0 MSWR3/FZY
408	1MB00302418	BINDING HEAD MACHINE SCREW+	D3.0 L8.0 MSWR3/FZY
411	353-046B	SCREW	SPECIAL (3X8 FZMY)
421	1MP00302618	PAN HEAD MACHINE SCREW +!	D3.0 L10.0, MSWR3/FZY
426	1MP00302018	PAN HEAD MACHINE SCREW +!	D 3.0 L6.0 MSWR3/FZY
427	353-0546	SCREW	MINIATURE
428	353-221A	SCREW	M3-L15
500	354-080F	WASHER	STOPPER
504	354-0016	WASHER	P.S D3,1XD6X0.5T
511	354-080C	WASHER	STOPPER D2.6XD5X0.5T
518	354-128A	WASHER	STOPPER D1.7XD4.5X0.5T
519	354-128B	WASHER	STOPPER D2.5XD9X0.5T
A43	3721 R-FOO4V	PANEL	ASSY FRONT
A44	3501 R-0278C	BOARD	ASSY SMPS
A45	3501 R-0690A	BOARD	ASSY PRE-AMP
OR			
A45	501-5206	MODULE	PRE-AMP(P401 P)
A46	3501R-0263E	BOARD ASSY	MAIN I
250	217-5706	CASE	TOP
260	315-3476	FRAME	MAIN(60HR)
266	321-738A	BRACKET	ASSY HOUSING
267	255-429A	PLATE	GND(M/F)
268	255-359A	PLATE	SIDF GND
269	255-362A	PLATE	PRE-AMP GND
270	321-743A	BRACKET	PROTECT
275	340-086A	HOLDER	DIGITRON
280	3720R-F009K	PANEL	FRONT
283	3580R-0003E	DOOR	CST
284	442-681A	SPRING	DOOR
300	681-142E	CORD	H03WH2-F 2-0.75MM(2X0.5MH)
320	258-728C	PANEL	ASSY DISTRIBUTOR
330	220-050A	COVER	BOTTOM
452	1353-051A	SCREW	SPECIAL(3X10 FZMY)
459	353-046A	SCREW	SPECIAL (3X6 FZMY)
462	J353-1 36A	SCREW	SPECIAL(4.6X12.5 FBK)
801	480-660U	INSTRUCTION ASSY	
802	3890R-G116A	BOX	P434I 4UL1
803	283-300A	PACKING	E,PS(P131/PK103U)
OR			
804	292-053A	BAG	SOFT(VCP)
804	3858R-0006A	SHEET	ROLL(W630XL300MX0.5T)
810	86i-505B	CABLE SET ASSY	RF-CABLE,ASSY, PAL
900	597-125B	REMOTE CONTROL	ASSY(M3 RIC;NORMAL)
901	255-409B	PLATE	TOP (M3)
902	217-611A	CASE	TOP (M3 R/C)
903	556-2708	SWITCH	RUBBER-A
904	556-271B	SWITCH	RUBBER-B(M3)
905	6871R-0406A	PWB ASSY!	M3 R/C NORMAL
906	220-136A	COVER	BOTTOM (M3)
907	236-586A	WINDOW	LCD (M3)
908	220-137A	COVER	BATTERY (M3)
909	442-729A	SPRING	BATTERY-A
910	1TPH0202016	PAN HEAD TAPPING SCREW +2	D 2.0 L 6.0 MSWR3/(BK)
FIX	960-031E	FIXTURE	SVC FIXTURE
FIX1	6871R-0288A	PWB ASSY!	D-27 JIG
FIX2	6871R-0288B	PWB ASSY!	D-27 JIG
FIX3	6871R-0288C	PWB ASSY!	D-27 JIG
FIX4	6871R-0288D	PWB ASSY!	D-27 JIG
FIX5	6871R-0288E	PWB ASSY!	D-27 JIG
FIX6	322-065A	SUPPORTER	DECK SVC
FIX7	6871 R-0288J	PWB ASSY—	D-27 FIXTURE

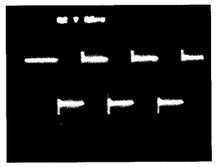
Servo/System Control/Audio & Tuner Waveforms

①



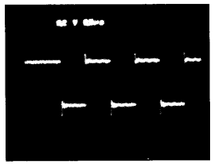
IC501 PIN ㉔
V. H/SW
0.2V/5msec

②



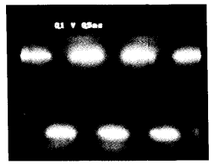
IC501 PIN ㉕
CAP. PWM
0.2V/0.5µsec

③



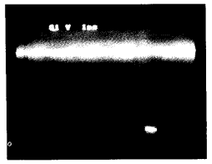
IC501 PIN ㉖
DRUM PWM
0.2V/0.5µsec

④



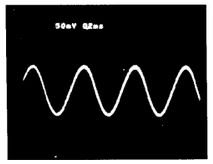
IC501 PIN ㊳
D. FG
0.1V/0.5msec

⑤



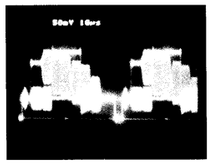
IC501 PIN ㊴
D. PG
0.1V/1msec

⑥



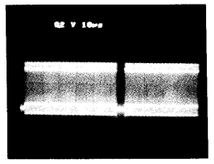
IC501 PIN ㊵
CAPSTAN FG
50mv/0.2msec

⑦



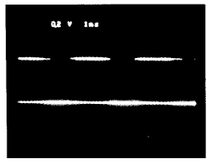
IC501 PIN ㊺
C. VOUT
50mv/10µsec

⑧



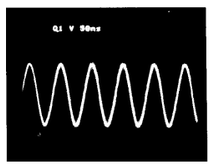
IC501 PIN ㊶
DOSC OUT
0.2V/10µsec

⑨



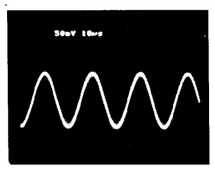
IC501 PIN ㊿
FLD OUT
0.2V/1msec

⑩



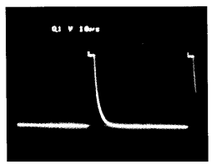
IC501 PIN ㉓
OSC 2
0.1V/50nsec

⑪



IC501 PIN ⑳
X 1
50mv/10µsec

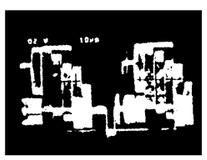
⑫



IC501 PIN ㊹
C. SYNC
0.1V/10µsec

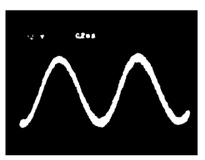
★ Tuner Oscilloscope Waveform

①



VIDEO IN
0.1V/10µS:EE

②



Audio In
50mV/200µsec

U-View Limited

Servo/Syscon/Audio & Tuner Diagram

If 5.3VA doesn,t input.
No RF line(modulator).

If 12VA doesn't input.
Tuning is faild.

IC701 are defective or Band A,B terminal of u-COM.
Tuning(Band selection) is failed.

Tuning PWM doesn't input.
Tuning is failed.

ZD702 is defective.
Tuning is failed.

VR701 miss-adjustment.
Picture is defective and F.OSD blue appears on the TV.

Q704 is defective.
Tuning is failed.

VR501 miss-adjustment.
Screen is jittered up and down

IC501 is not operated.
When the waveform is abnormal.
All function keys is not operating.

No power.
Digitron don't display or is unstable.

No OSD.
No menu picture in the oscillated.

Q522 is defective.
Can't tuning.

ZD503,Q501 are defective.
Unable to loading.

No power.
Loading moter is not operating.

ZD502,Q513 are defective.
Unable to tuning.
No sound signal.

Q506,ZD504 are defective.
Can't see the picture.

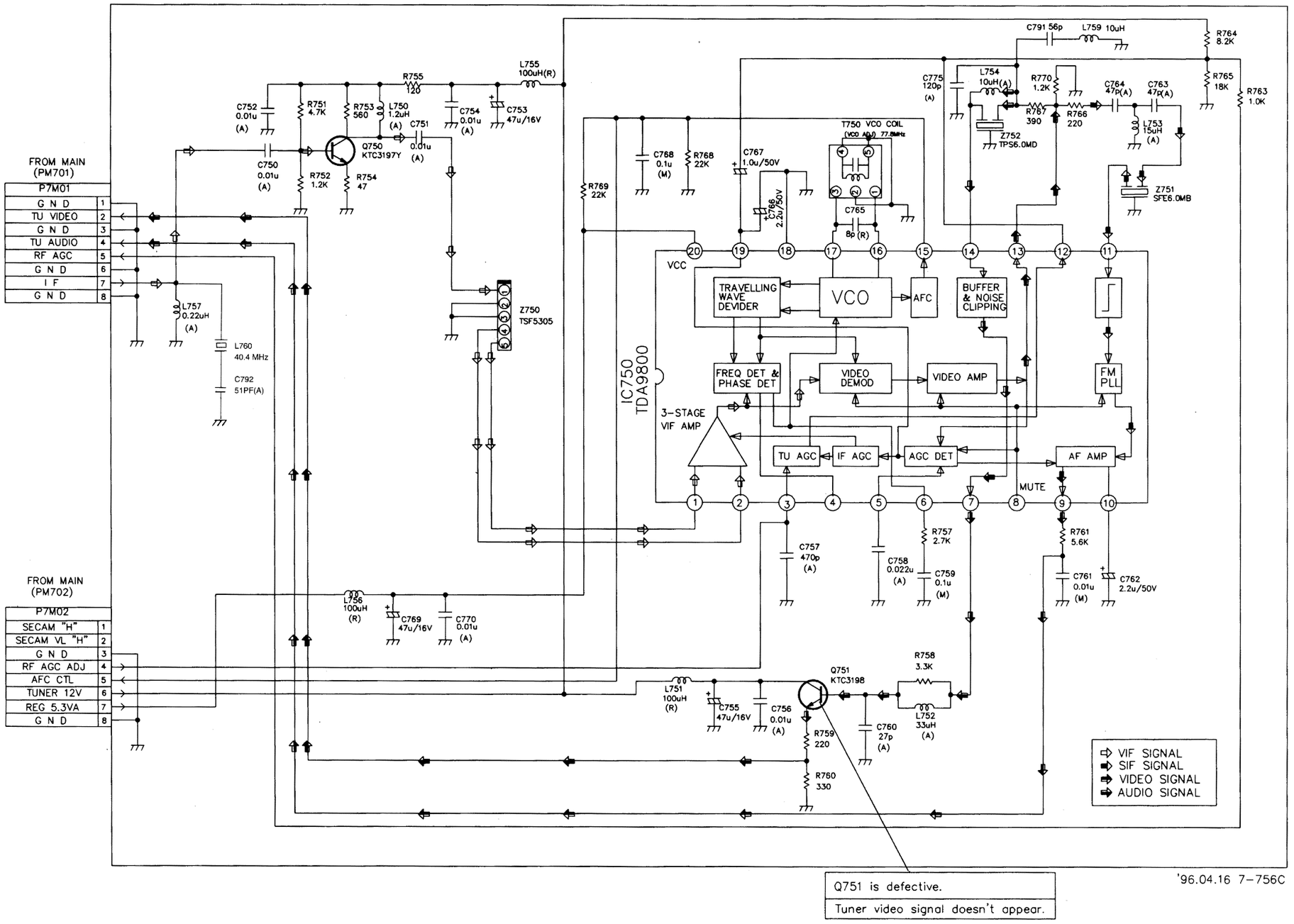
Q404,Q405 are defective.
Can't erase signal in tape.
Can't sound signal in recording.

ZD503	V9
ZD504	T7
ZD505	U5
ZD551	E5
ZD552	E5
ZD701	I15
ZD702	F11

⇨ REC AUDIO SIGNAL
⇨ PB AUDIO SIGNAL
⇨ IF SIGNAL
⇨ VIDEO SIGNAL

'96.04.16 7-753B

IF PCB Diagram



Q751 is defective.
Tuner video signal doesn't appear.

'96.04.16 7-756C

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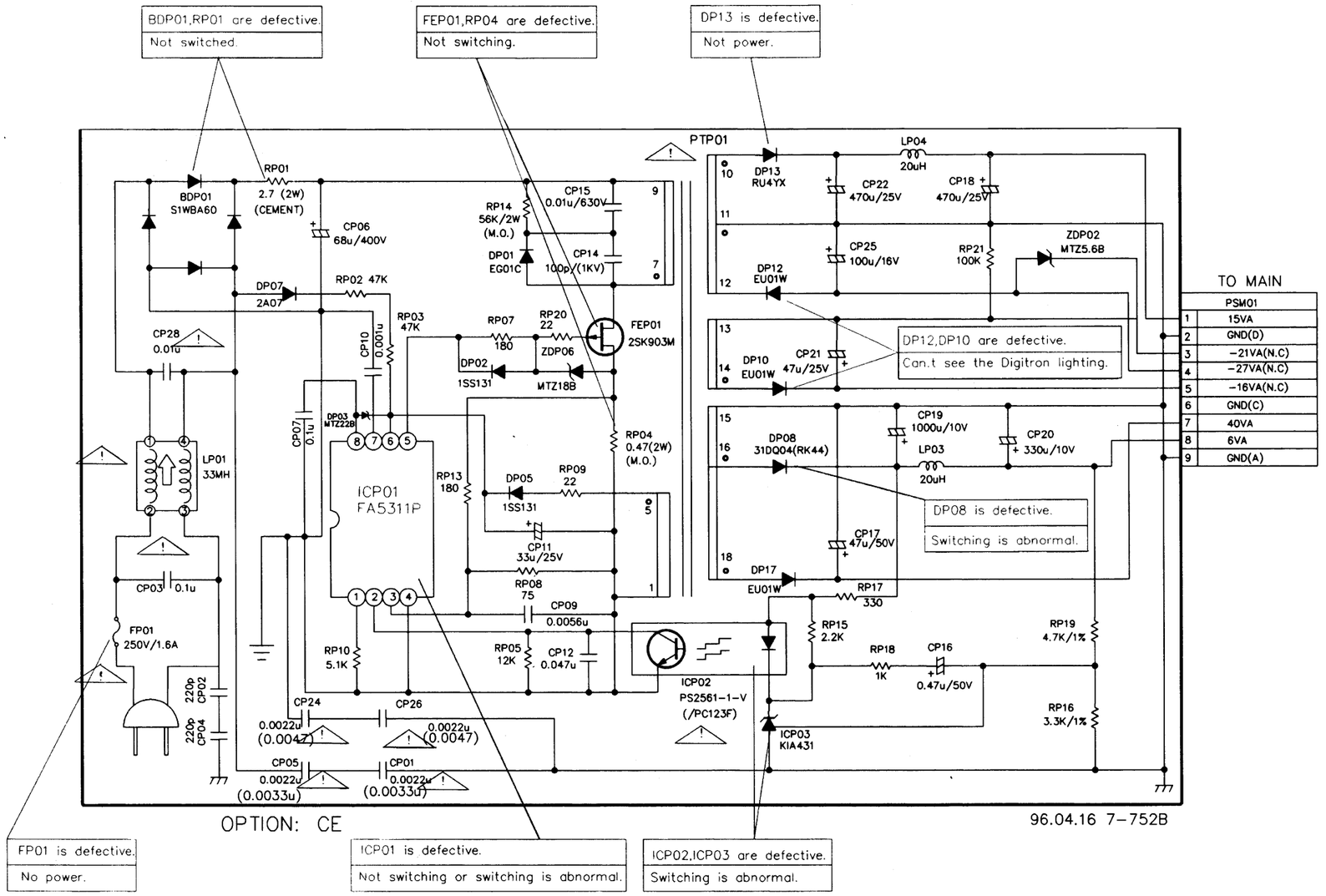
Power Supply Diagram



Semiconductor Voltages

★ IC Voltage Sheet

PB(REC)

0	1.5	2	2	3.2	3	3	3.8	5	2	2.5	3.6	1.2	2.5	2.5	0	2.5	0	2.5	2.5	0
0	(1.6)	(2)	(2)	(2.2)	(3)	(3)	(3.8)	(5)	(2)	(2.5)	(3.6)	(1.2)	(1.4)	(1.4)	(0)	(2.5)	(0)	(2.5)	(2.5)	(0)
		40					35					30					25			

IC301 (LA7437)

1				5					10					15					20
3.2	3.5	4	2.8	3.2	4.5	4.5	4.5	2.5	2	3.2	3.4	5	3.4	3	1.6	2.2	2	5	1.2	2.2
(2.2)	(2.6)	(4)	(2.8)	(3.2)	(2)	(2)	(2.6)	(2.4)	(1.4)	(3.2)	(2.8)	(5)	(3.4)	(3)	(1.6)	(2.2)	(2)	(0)	(1.2)	(2.2)

PB(REC)

0.7	0	2.0	0.7	0	0	0	0.7	2.0	0	0.7	2.0	0	0	2.5
(0)	(4.2)	(3.6)	(0)	(4.2)	(0)	(4.2)	(0)	(3.6)	(4.2)	(0)	(3.6)	(4.2)	(4.2)	(1.7)
30				25					20					

IC302 (LA7417)

1				5					10					15
2.0	0	4.5	0	5	1.5	0	2	0	2.3	0	0	2.5	5.0	5
(3.6)	(0)	(0)	(0)	(5)	(1.5)	(5)	(0)	(0)	(3.6)	(3.6)	(1.6)	(2.5)	(4.5)	(5)

MESECAM(PAL)

0	5	4	0	4
		(2)		
1				5

IC305 (LA7356)

10				6
4.5	5	0	5	2.5
(0)				

OPTION : Mesecam

PB(REC)

0	1.4	0	5	8.4	5	0	5	1.9	1.9	0
(0)	(1.4)	(0)	(5)	(8.4)	(5)	(0)	(5)	(1.9)	(1.9)	(0)
20				15						

IC304 (LC89970)

1				5					10
0	2.3	5	2.3	0	2.3	0	1.3	0	2.3	1.2
(0)	(2.3)	(5)	(2.3)	(0)	(2.3)	(0)	(1.3)	(0)	(2.3)	(1.2)

PB(REC)

0	2	2.2	6.2	0.2	6.2	5.3	6.2	0.2
(0)	(2)	(2.2)	(6)	(0)	(6.2)	(0)	(6.2)	(0)
15							10	

IC401 (BA7797)

1				5					
2	0	6	6.2	12	12	0.4	6.2	5.5	
(2)		(6)	(6)	(12)	(12)	(5.2)	(6.2)	(5.5)	

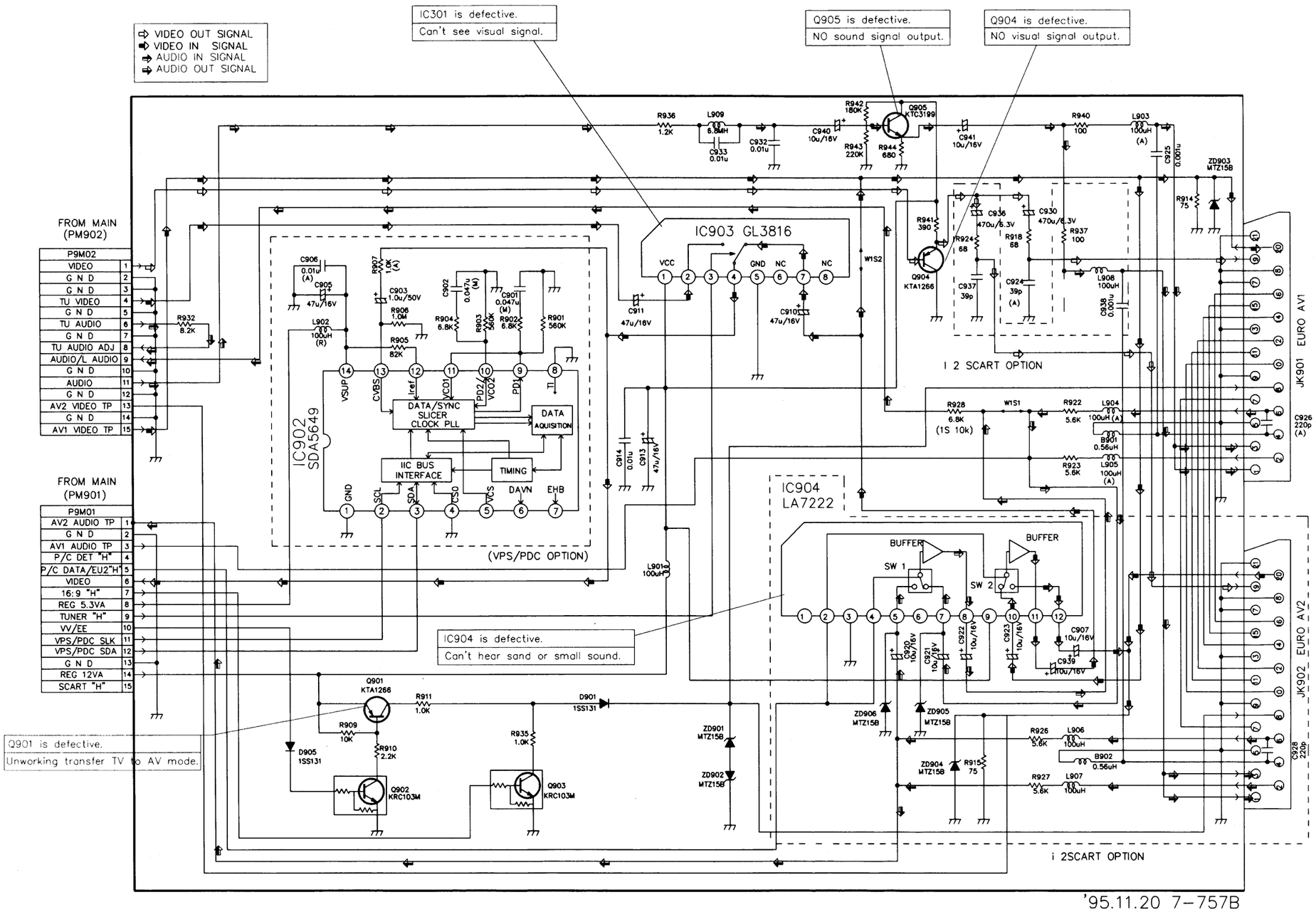
IC501 (H8/3976) HD6473977F

★ TR Voltage Sheet

PB(REC)

Port / TR NO	Emitter	Collector	Base
Q303	0.6(0)	1.8(0.4)	1.4(0)
Q307	0(0)	0(0)	0(0)
Q308	1.6(2)	4.5(0.5)	2.2(2.5)
Q309	1.8(0)	3(0.2)	2.5(0.2)
Q310	2.4(0.4)	1.3(0)	1.8(0)
Q311	0.6(0)	3.9(0.4)	1.3(0)
Q312	3(0)	5(0.4)	3.9(0.4)
Q315	3.4(3)	0(0)	3(2)

Scart & AV Switching PCB Diagram



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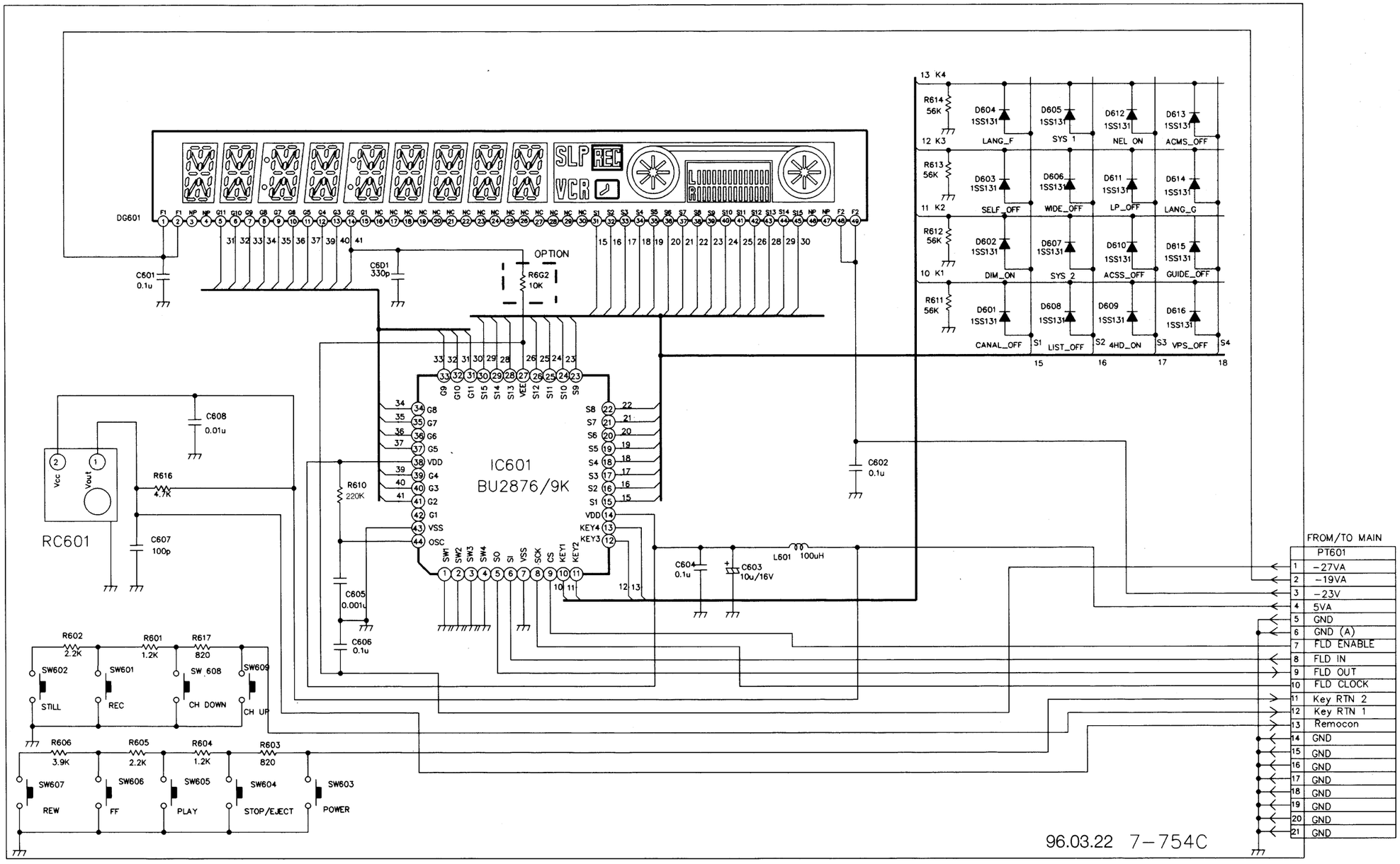
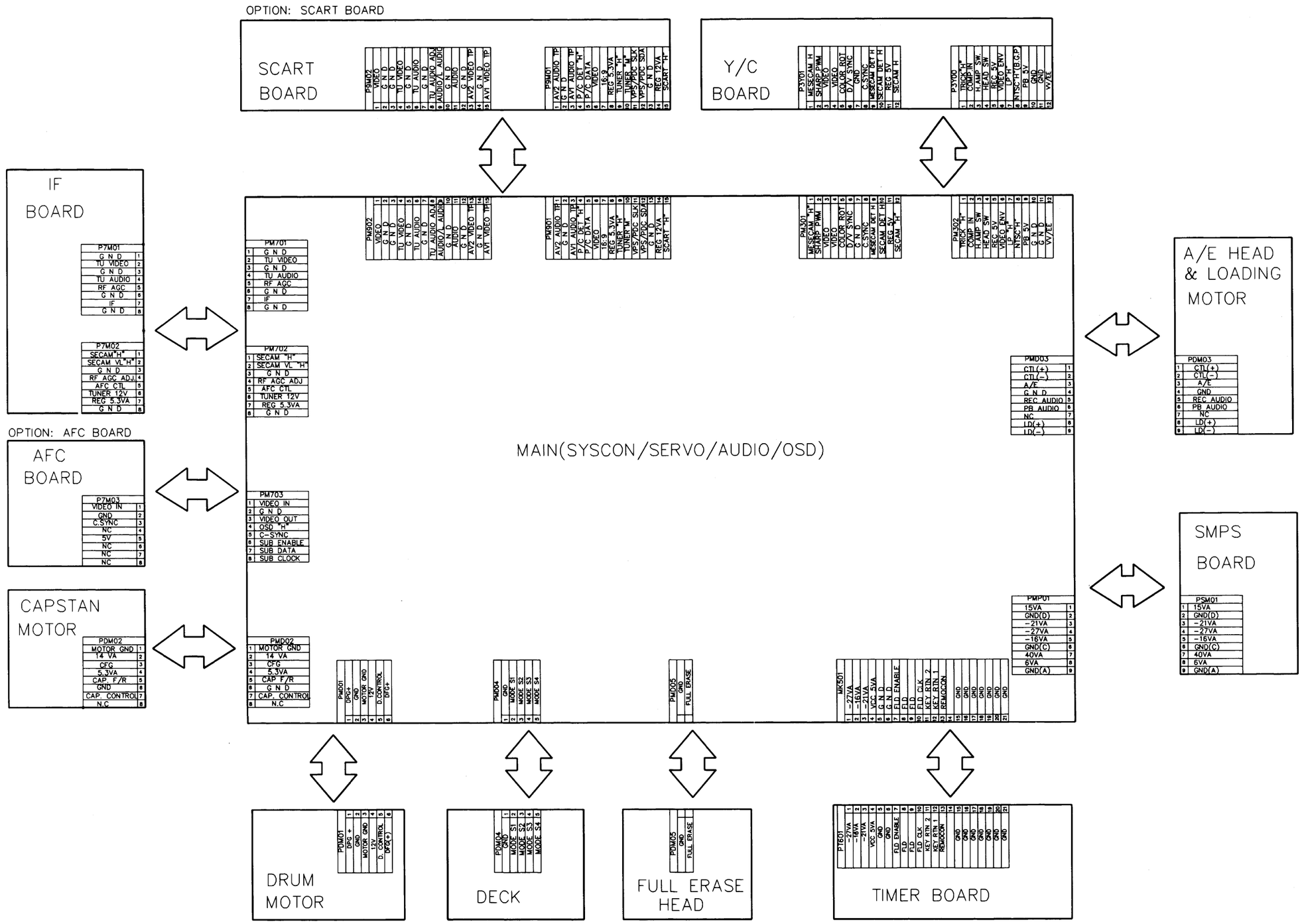
Timer PCB Diagram



Wiring Diagram



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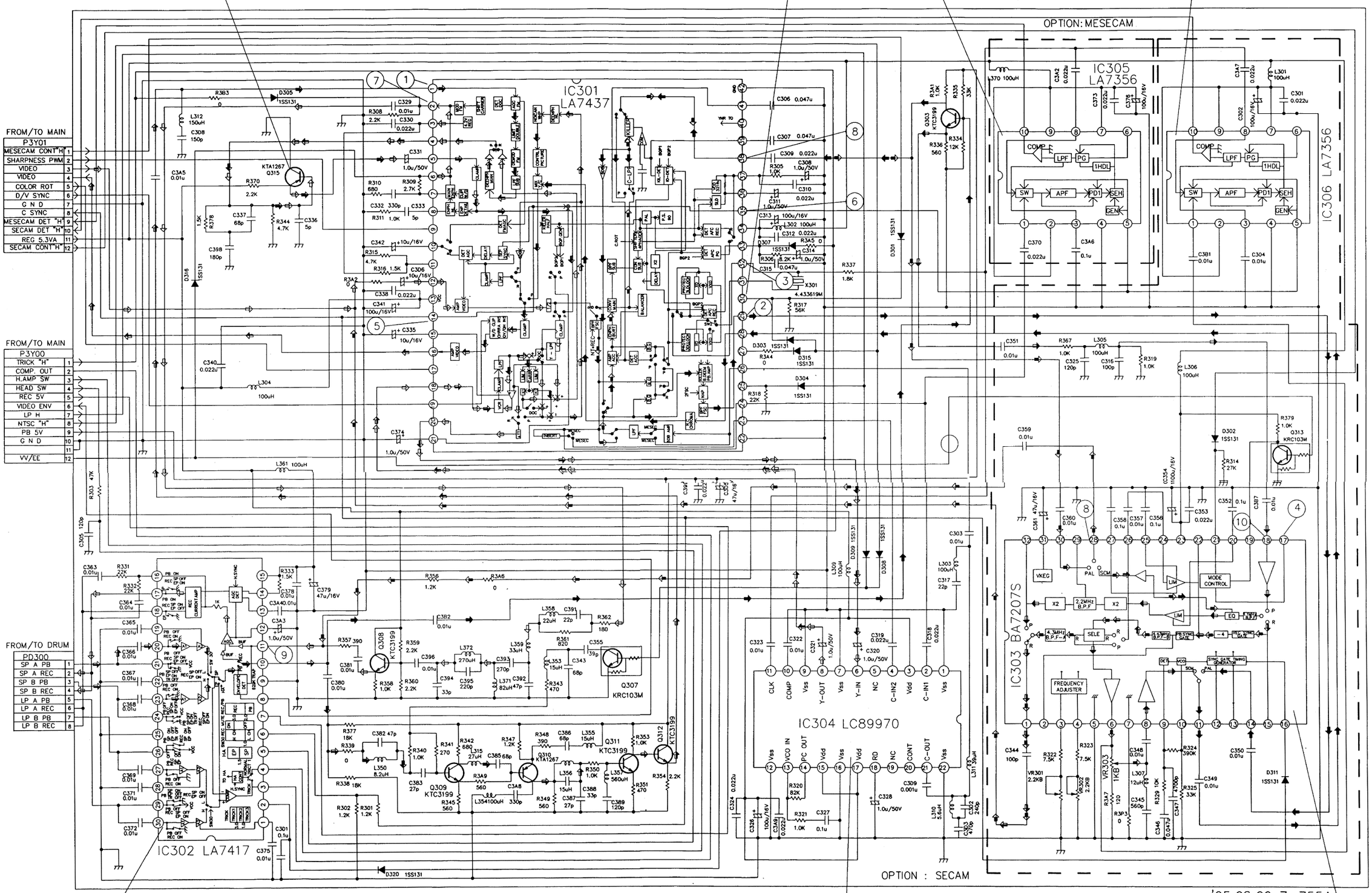
Y/C Diagram

Q315 is defective.
Playback screen doesn't appear.

IC301 Pin30 is defective.
PAL,MESECAM mode detecty is failed.
Color signal is unstable.

IC305 is defective.
MESECAM mode detecty is failed.

IC306 is defective.
SECAM mode detecty is failed.



IC302 Pin7 is defective.
Playback recording mode is failed.

REC Y SIGNAL
REC C SIGNAL
REC C(SECAM) SIGNAL
WAVEFORM
PB Y SIGNAL
PB C SIGNAL
PB C(SECAM) SIGNAL

IC304 is defective.
Drop out compersation is failed.
Color signal doesn't appear in the PB mode.

IC303 is defective.
SECAM mode is failed.
Color signal doesn't appear in the PB and SECAM mode.